

Education and debate

WHO Framework Convention on Tobacco Control: development of an evidence based global public health treaty

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Many health problems require international action, but getting governments to agree on strategies for prevention or treatment is difficult. By making use of scientific evidence on the effects of tobacco, the member states of WHO have negotiated their first global health treaty. If the treaty can be implemented effectively, it could act as a possible model for tackling other health issues

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When Dr Gro Harlem Brundtland became director general of the World Health Organization in 1998, she clearly stated that the tobacco epidemic should be tackled by an international collective action and that WHO should take a leadership role.¹ In 1999, WHO started work on the WHO Framework Convention on Tobacco Control, which was endorsed by member states on 21 May 2003. It is the first time WHO has used its constitutional authority in global public health to develop a legal instrument aimed at improving population health. The initiation and negotiation of the framework convention was based strongly on the accumulation of scientific evidence.² We review the development and scientific basis of the convention and discuss its implications and the potential of international collective action against threats to global public health.

Developing a framework convention

The structural basis for framework conventions is to use an incremental process in making law. It begins with a framework convention that establishes a general consensus on the relevant facts and the system of governance for an issue. This is followed by the development of more specific commitments and institutional arrangements in subsequent protocols.³ However, depending on the political will, framework conventions can also include quite specific provisions. In the case of the WHO Framework Convention on Tobacco Control, the powerful political momentum behind the treaty has ensured that several detailed provisions have been incorporated into the final text.⁴

The framework convention is the first and most crucial step in controlling use of tobacco. Nevertheless, further efforts are needed to establish national capacities to set the foundation for the later implementation of the treaty, to negotiate the protocols on specific subjects within the framework, and to implement effective interventions to reduce tobacco consumption globally. Despite some concern about the effectiveness of a con-

vention, past experiences in environmental protection suggest that international legislation can make a difference if implemented properly. For example, there was a substantial reduction in use of chlorofluorocarbons after the implementation of the Vienna Convention for the Protection of the Ozone Layer and the Montreal protocol.⁵

Framework for tobacco control

The framework covers a wide range of issues, including measures relating to the reduction of the demand for and supply of tobacco (box).⁴ The objective is to protect present and future generations from the health, social, environmental, and economic consequences of tobacco consumption. Its guiding principles include information on the health hazards of tobacco, strong political commitment to reducing these hazards, international cooperation, comprehensive multisectoral measures and responses, liability issues, technical and



Young smokers in Cambodia, one of the many countries in which death rates from smoking related diseases are increasing

WHO Framework Convention on Tobacco Control

Measures relating to reducing the demand for tobacco

- Price and tax measures
- Protection from exposure to environmental tobacco smoke
- Regulation and disclosure of the contents of tobacco products
- Packaging and labelling
- Education, communication, training, and public awareness
- Comprehensive ban and restriction on tobacco advertising, promotion, and sponsorship
- Tobacco dependence and cessation measures

Measures relating to reducing the supply of tobacco

- Elimination of the illicit trade of tobacco products
- Restriction of sales to and by minors
- Support for economically viable alternatives for growers

financial assistance for tobacco growers and workers to move to alternative occupations, and the participation of civil society in the process. The tough negotiation process was highly political,⁶ but the scientific evidence on the health effects of the global tobacco epidemic and the availability of cost effective interventions to reduce smoking provided a solid foundation for the development of the convention.

Evidence for effects on health

Although the hazardous health effects of tobacco have been known for nearly 50 years, a more accurate picture has emerged in the past decade.⁷⁻⁸ WHO's *World Health Report 2002* presented the latest estimates of the contribution of selected risk factors to the burden of disease in the world.⁹⁻¹⁰ Tobacco use was the leading cause of disease burden measured in disability adjusted life years (DALYs) lost in developed countries, and one of the top 10 risk factors even in the poorest developing regions.

Although the prevalence of smoking has fallen in developed countries, it continues to increase in many low and middle income countries, especially among young people and women.¹¹ An estimated 4.9 million (8.8% of the global total) deaths were attributable to use of tobacco in 2000, which is 45% higher than the number in 1990. The increase was greatest in developing countries, which now account for 50% of the global mortality and 56% of the disease burden attributable to tobacco. Without additional interventions to reduce use of tobacco, the health burden will continue to increase, particularly in developing regions. At current levels of consumption, the burden from tobacco is estimated to double by 2020 (figure).⁹

Cost effectiveness of interventions to reduce use

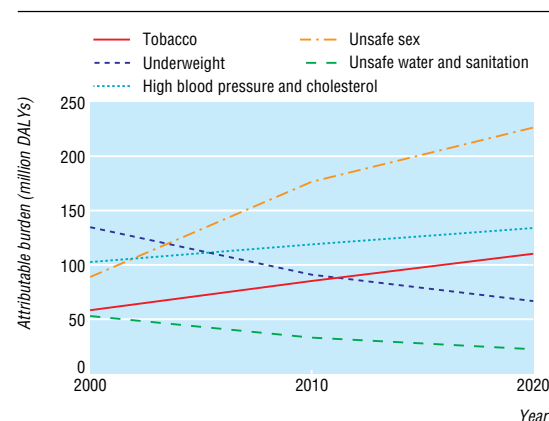
Information on disease burden is important in persuading governments of the need to control the use of tobacco. Until recently, however, limited evidence

has been available on the cost effectiveness and practicability of the various interventions to reduce use, particularly in developing countries. The *World Health Report 2002* provided concrete evidence on cost effectiveness, analysing each intervention under discussion singly and in combination, using a standard method for 14 different subregions of the world.⁹⁻¹² By accounting for subregional differences in demographic, epidemiological, and cost characteristics, and by using region specific information on exposure,¹³ this analysis extends previous work that used a more aggregated geographical breakdown.¹⁴⁻¹⁵

Interventions were defined as cost effective if the cost per DALY averted was less than three times the country's gross domestic product per capita and very cost effective if each DALY could be averted at a cost less than the gross domestic product per capita.¹⁶ The table shows the analysis for three WHO subregions, and data for all regions are available at www.who.int/evidence/cea. Four interventions requiring government action (taxation, clean indoor air laws, a comprehensive ban on advertising, and information dissemination on the health risks of tobacco) are very cost effective in all subregions.

Taxation is the most cost effective option everywhere, and current levels of tax already avert 15 million DALYs each year globally. If all countries increased taxation to the highest regional rate currently observed (75% of the final retail price), an additional 19 million DALYs could be averted. This is equivalent to 56% of the estimated total burden attributable to tobacco in 2000. If it were possible to double the highest observed rate of taxation, a further 9 million DALYs could be averted. On purely health grounds, the higher the rate of taxation, the better.

The resources available to each country to implement effective action against tobacco use differ. In all subregions, tobacco taxation is the first choice, and each new intervention would be added sequentially. In developed countries, price has a relatively small effect on consumption, so additional methods can be added to taxation feasibly and cost effectively. In many regions, comprehensive bans on advertising would be the first to be added to taxation. The combination of taxation, comprehensive bans on advertising, and information dissemination activities would be cost effective in most settings. Even a relatively expensive



Projected global burden of disease in disability adjusted life years (DALYs) attributable to selected risk factors, 2000-2020

intervention such as nicotine replacement therapy is cost effective in many regions when added to the other control options.

In low resource countries, price increases through taxation may be sufficient to reduce tobacco consumption, although a combined approach is also cost effective and potentially feasible. Even in the poor regions of Africa, it would be cost effective to combine comprehensive bans on advertising and information dissemination activities with increases in taxation.

Implications

This evidence from the WHO report provided critical information in support of the general goals of the framework convention, although its implementation depends also on political considerations.¹⁷ The proposed interventions will need to be tailored to the policy environments and resource levels and characteristics of national health systems.⁹

One of the clear conclusions from this experience is that governments have an important role in encouraging risk reduction strategies.⁹ For example, the scientific evidence shows that increasing taxation is the most cost effective intervention in all regions. Not only does it have the greatest effect on population health but it is also the least costly option. Contrary to the concerns of finance ministries in many countries, taxation also raises revenues for governments because consumption usually falls at lower rate than the percentage increase in price.¹⁸ Obviously, the appropriate size of the tax will depend on social and political factors. None the less,

the evidence shows that there is a room for many governments, particularly in low to middle income countries, to increase rates of tobacco taxes substantially.^{19 20}

The spread of the tobacco epidemic is accelerated and confounded by various factors, including liberalisation of trade, global marketing and communications, and direct foreign investment.^{2 21} The epidemic cannot be controlled by domestic policies alone, and the framework convention also makes specific commitments to tackle challenges that cross national boundaries.³ For example, one concern of increasing tax rates is the possible increase in smuggling tobacco, particularly if tax rates vary widely across countries. The convention includes a commitment to monitor and eliminate global smuggling, illicit manufacturing, and counterfeiting of tobacco products.

Health and globalisation

Throughout history, health threats have swept across continents irrespective of national borders, as illustrated recently by severe acute respiratory syndrome (SARS).²² The process of globalisation is producing a growing discrepancy between the global aspect of health challenges and the mostly national policy instruments that decision makers must use to deal with them. New rules and regulations for interaction between countries are required for health issues.²³

WHO can contribute to producing these rules by focusing part of its work on essential functions such as promotion of international, evidence based legislation

Costs, effectiveness, and cost effectiveness ratios (95% confidence intervals) of interventions to reduce use of tobacco for three WHO subregions

Intervention	Total cost (\$m/year)*			Total effect (million DALYs/year)			Average cost effectiveness ratio (\$/DALY)		
	Region of Americas B†	European region A‡	South East Asia region D§	Region of Americas B †	European region A‡	South East Asia region D§	Region of Americas B †	European region A‡	South East Asia region D§
G1: Global average tax rate (44%)	32 (27 to 42)	88 (74 to 110)	132 (121 to 156)	0.8 (0.6 to 0.9)	2.0 (1.8 to 2.3)	3.2 (2.7 to 3.7)	42 (33 to 57)	44 (35 to 57)	41 (35 to 53)
G2: Highest regional tax rate (75%)	32 (27 to 42)	88 (74 to 111)	132 (121 to 156)	1.7 (1.4 to 2.0)	4.8 (4.2 to 5.4)	7.3 (6.1 to 8.5)	19 (15 to 25)	18 (15 to 24)	18 (15 to 23)
G3: Doubling the highest tax	32 (27 to 42)	88 (74 to 110)	132 (121 to 156)	2.3 (2.0 to 2.7)	6.9 (6.0 to 7.7)	9.3 (7.8 to 10.8)	14 (11 to 19)	13 (10 to 17)	14 (12 to 18)
G4: Clean indoor air law enforcement	120 (100 to 165)	275 (209 to 368)	395 (295 to 522)	0.1 (0.1 to 0.1)	0.8 (0.6 to 0.9)	0.5 (0.4 to 0.7)	972 (761 to 1425)	358 (263 to 503)	727 (508 to 1099)
G5: Comprehensive advertisement ban	48 (40 to 65)	110 (83 to 146)	151 (124 to 178)	0.2 (0.2 to 0.02)	0.6 (0.5 to 0.7)	0.5 (0.4 to 0.7)	248 (194 to 361)	189 (140 to 266)	279 (207 to 385)
G6: Information dissemination	101 (84 to 138)	235 (178 to 315)	328 (244 to 411)	0.2 (0.2 to 0.3)	0.7 (0.6 to 0.8)	0.7 (0.5 to 0.8)	436 (343 to 632)	337 (248 to 479)	504 (349 to 722)
P1: Nicotine replacement therapy	714 (594 to 979)	1505 (1139 to 2013)	1724 (1171 to 2280)	0.2 (0.2 to 0.3)	0.7 (0.6 to 0.8)	0.7 (0.5 to 0.8)	3083 (2423 to 4520)	2164 (1604 to 3024)	2652 (1708 to 3962)
G3+G5	80 (64 to 107)	198 (158 to 256)	283 (234 to 333)	2.5 (2.0 to 2.9)	7.2 (6.1 to 8.2)	9.3 (7.4 to 11.1)	32 (24 to 47)	28 (34 to 61)	31 (23 to 40)
G3+G6	133 (105 to 176)	323 (258 to 418)	460 (380 to 540)	2.5 (2.1 to 3.0)	7.2 (6.2 to 8.3)	9.3 (7.4 to 11.1)	53 (40 to 75)	45 (61 to 108)	50 (38 to 65)
G3+G4+G5	200 (159 to 266)	473 (378 to 612)	678 (560 to 795)	2.6 (2.1 to 3.1)	7.5 (6.4 to 8.7)	9.5 (7.4 to 11.1)	78 (59 to 111)	63 (44 to 78)	73 (56 to 96)
G3+G4+G6	253 (202 to 336)	599 (477 to 775)	854 (706 to 1004)	2.6 (2.1 to 3.1)	7.6 (6.5 to 8.7)	9.3 (7.5 to 11.1)	97 (73 to 140)	79 (21 to 37)	92 (71 to 120)
G3+G5+G6	181 (143 to 239)	433 (346 to 562)	611 (504 to 718)	2.7 (2.2 to 3.2)	7.5 (6.4 to 8.6)	9.4 (7.4 to 11.1)	68 (51 to 97)	58 (49 to 85)	66 (51 to 87)
G3+G4+G5+G6	301 (240 to 403)	708 (564 to 917)	1006 (830 to 1181)	2.7 (2.2 to 3.3)	7.8 (6.7 to 9.0)	9.5 (7.5 to 11.1)	110 (83 to 157)	90 (70 to 123)	109 (83 to 142)
G3+G4+G5+G6+P1	1015 (803 to 1355)	2213 (1756 to 2867)	2730 (2143 to 3312)	2.9 (2.4 to 3.5)	8.1 (6.9 to 9.03)	9.7 (7.5 to 11.1)	348 (261 to 497)	274 (211 to 372)	295 (218 to 394)

*All costs are reported in international \$ in 2000, based on purchasing power parity rather than official exchange rate, to facilitate more meaningful comparisons across regions, in particular for goods and services that are not tradable.

†Latin America: low child and adult mortality. Regional gross domestic product per capita=\$7833.

‡Very low child and adult mortality. Regional gross domestic product per capita=\$23 927.

§High child and adult mortality. Regional gross domestic product per capita=\$1449.

Summary points

The WHO Framework Convention on Tobacco Control is the first international treaty negotiated under the auspices of WHO

The convention is based on scientific evidence on the tobacco epidemic and its control strategies

The most cost effective control option in all regions is taxation on tobacco products

Comprehensive bans on advertising and information dissemination activities would also be cost effective in most countries

Use of these interventions could reduce the global burden attributable to tobacco by as much as 60%

The convention shows how global public health problems can be tackled by international collective action

and surveillance and control of health problems that do not have international boundaries—for example, spread of an epidemic.²⁴ International regulatory approaches are part of an overall strategy to develop governance structures for global health that effectively confront international problems.²⁵ The WHO Framework Convention on Tobacco Control is thus a landmark step towards global cooperative actions against health threats.

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Endpiece

The wife who commands

Today in France it is more often the wife who commands and the husband who obeys, and everything that the surgeon orders for the care of the husband the wife considers to be utterly useless, although that which he orders for the wife, the husband thinks will be of great benefit.

Henri de Mondeville, surgeon, died 1325. Welborn MC. The long tradition: a study in fourteenth century medical deontology. In: Cate JL, Anderson EN, eds. *Medieval and historiographical essays*. Chicago: University Press, 1938:354.

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